

Homework - Building Blocks

1. What is the value of $3 + (-3)$? What is the value of $(-10.4) + 10.4$? These pairs of numbers are called *opposites*. What is the sum of a number and its opposite? Does every number have an opposite? State the opposite of:

- (a) -2.341 (b) $1/3$ (c) x (d) $x + 2$ (e) $x - 2$

2. Kelly telephoned Brook about a homework problem. Kelly said, "Four plus three times two is 14, isn't it?" Brook replied, "No, it's 10." Did someone make a mistake? Can you explain where these two answers came from?

3. The division problem $12 \div \frac{3}{4}$ is equivalent to the multiplication problem $12 \cdot \frac{4}{3}$. Write each of the following division problems as equivalent multiplication problems:

- (a) $20 \div 5$ (b) $20 \div \frac{1}{5}$ (c) $20 \div \frac{2}{5}$ (d) $a \div \frac{b}{c}$ (e) $\frac{b}{c} \div a$

4. What is the value of $\frac{2}{3} \cdot \frac{3}{2}$? What is the value of $4 \cdot \frac{1}{4}$? These pairs of numbers are called *reciprocals*. What is the product of a number and its reciprocal? Does every number have a reciprocal? State the reciprocal of the following:

- (a) $\frac{5}{3}$ (b) $-\frac{1}{2}$ (c) 2000 (d) $\frac{a}{b}$ (e) x

5. Write an expression that represents the number that

- (a) is 7 more than x ; (b) is 7 less than x ; (c) is x more than 7;
(d) exceeds x by 7; (e) is x less than 7; (f) exceeds 7 by x .